



## A NEW SPECIES OF *METAVONONOIDES* FROM SOUTHERN ESPÍRITO SANTO, BRAZIL (ARACHNIDA: OPILIONES: COSMETIDAE) <sup>1</sup>

(With 6 figures)

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**ABSTRACT:** A new species of Cosmetidae belonging to the genus *Metavononoides* Roewer, 1928 is herein described. *Metavononoides renneri* sp.nov. is clearly recognized by its distinctive tarsal formula, by the ratio length/width of dorsal scutum, and by its characteristic color pattern. The new species is the thirteenth species included in the genus. It is known only from the type locality, Bom Jesus do Norte, Alto da Torre, Espírito Santo, Brazil.

**Key words:** Laniatores, Taxonomy, Rio de Janeiro, Neotropical, WWF Ecoregion NT0104.

**RESUMO:** Uma nova espécie de *Metavononoides* da Mata Atlântica (Arachnida: Opiliones: Cosmetidae).

Uma nova espécie de Cosmetidae pertencente ao gênero *Metavononoides* Roewer, 1928 é descrita. *Metavononoides renneri* sp.nov. é claramente reconhecida por sua fórmula tarsal, pela relação comprimento/largura do escudo dorsal, e pelo seu padrão de cores. A nova espécie é a décima terceira espécie do gênero. A localidade tipo é Bom Jesus do Norte, Alto da Torre, Espírito Santo, Brasil, havendo registro apenas nesse local.

**Palavras-chave:** Laniatores, Taxonomia, Rio de Janeiro, Neotropical, Eco-região WWF NT0104.

### INTRODUCTION

The genus *Metavononoides* Roewer, 1928 currently includes twelve species, distributed in the Atlantic Forest of eastern Brazil (KURY, 2003; FERREIRA, *et al.*, 2005). This genus can be recognized by the presence of a U-shaped drawing (similar to a lyre) on the dorsal scutum, body length 5 to 7mm, long legs (leg II reaching more than 30mm in the smaller species), depressed mesotergum, a pair of median spines in the area III and a bifid dorso-basal apophysis in coxa I (KURY, 2003).

In this paper a new species of *Metavononoides* from the Atlantic Forest is described and some information on its habitat and distribution is given. Depositories of the specimens cited are Museu Nacional, Universidade Federal do Rio de Janeiro (MNRJ) and Senckenberg Museum, Frankfurt (SMF). All measurements are in mm. Legs measurements follow the pattern: Total (Trochanter / Femur / Patella / Tibia / Metatarsus / Tarsus). Pedipalpus measurements follow the pattern: Total (Trochanter / Femur / Patella / Tibia / Tarsus / Claw). Tarsal formula (number of

tarsomeres) of left and right legs is given as follows: I-I, II-II, III-III, IV-IV. Numbers of total tarsal count of legs I-II are followed by the distitarsal count in parentheses. Descriptions of colors use the standard names of the 267 Color Centroids of the NBS/IBCC Color System (<http://www.anthus.com/Colors/Cent.html>).

*Metavononoides renneri* sp.nov.  
(Figs.1-6)

**Holotype** – Adult ♂ (MNRJ 6178), Renner L.C.Baptista col., 3/XI/1984.

**Type-locality** – Bom Jesus do Norte (21°08'S, 41°41'W), Alto da Torre, Espírito Santo State, Brazil on the forest ground.

**Paratypes** (same locality and collector) – 1 adult ♂, 2 adult ♀ (MNRJ 6178), all brittle, as the holotype.

**Etymology** – Species name is an genitive referring to our friend arachnologist Renner Luiz Cerqueira Baptista who also collected the type series and only material known of the species.

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Distribution – Known only from the type locality. WWF Ecoregion NT0104 (Bahia interior forests) of the biome Tropical & Subtropical Moist Broadleaf Forests. It is not known if this reflects a collecting artifact caused by insufficient sampling of the region and rarity (low abundance) of the species or to true endemism. But a strong degree of presumable endemism is known to occur in many genera of Gonyleptoidea, including Cosmetidae (KURY, 2003). Besides the differences in morphology and color pattern, *M. renneri* is allopatrid to all other species of *Metavononoides*, based on the known records.

Diagnosis – *Metavononoides renneri* can be separated from the others in the genus by 1) the unique tarsal formula 6(3), 15(3), 8, 9 (in all other species, a low tarsal count such as 6 on leg I corresponds to low counts such as up to 13 in leg II and 7 in legs III-IV), 2) drawings on the dorsal scutum restricted to area I and to the margins of area III (in all other species pigmentation is more extensive), 3) the spines of area III concolorous with the dorsum (this strongly contrasts with the black spine of e.g. *M. melanacanthus* Ferreira, Pedroso & Kury, 2005 and others), and 4) the coxa IV visible in all its extension beyond the scutum in dorsal view (coxa IV is visible only in its distal portion in many species). Also 5) the ratio length/width of dorsal scutum is unique within the genus, with width near length instead of length much larger than width typical of the other species in the genus. See Discussion for more comparisons.

DESCRIPTION OF ♂ HOLOTYPE

Body – Measurements in table 1. Ventral and dorsal granulation reduced, similar to that of *Metavononoides barbacenensis* (Mello-Leitão, 1923). Anterior border of dorsal scutum smooth, with cheliceral sockets moderately deep, with one large acuminate projection on each side, both projections subparallel. Median projection (between chelicerae) similar to lateral projections, slightly blunter. Lateral margins of dorsal scutum with a longitudinal row of

minute granule besides areas II-IV. Posterior margin of dorsal scutum (area V) short, with minute scattered granules, its border only slightly concave. Eye mound low, smooth, saddle-shaped, clearly visible in dorsal view. Dorsal scutum swollen in its abdominal portion, lateral margins converging posteriorly so that posterior corners form an obtuse angle. Grooves of scutum not clearly marked, except for the scutal groove, which defines the carapace. Mesotergal areas not recognizable, but paired armature by topology seems to correspond to area III. Maximum width of scutum anterior to area III. Scutal areas and tergites unarmed, except area III, armed with a pair of high acuminate spiniform projections (both broken in the holotype), slightly divergent, with granular base. Free tergites with a transverse row of minute granules. Free sternites unarmed. Dorsal anal operculum with a pair of small spines.

Chelicera – Bulla of basichelicerite bordered with large acute granules all around. Cheliceral hand smooth and unarmed.

Pedipalpus – Measurements in table 1. Femur flattened and concave ventrally. Tibia spoon-shaped, with two marginal rows of small setae.

Legs – Measurements of legs I-IV in table 1. Podomeres unarmed, except coxae. Tarsal counts: 6-6(3), 15-15(3), 8-8, 9-9. Coxa I with prolatero-dorsal apophysis large and bifid, retrolatero-dorsal apophysis reduced. Coxa II-III with one prolatero-dorsal apophysis each. Coxa IV barely visible in all its extension beyond scutum in dorsal view. With two prolateral-dorsal apophyses close together.

Penis – Ventral plate subrectangular a little wider at apex, apical border slightly concave. Two pair of unequal apical setae moderately long and curved. Three pairs of smaller latero-medial setae, the distal two pairs shorter and straight inserted transversally, proximal pair curved, oblique. Glans with thumb-like dorsal process. Stylus with apex swollen, glans with hyaline serrate crest.

TABLE 1. Male holotype of *Metavononoides renneri* sp.nov. measurements of body and appendages.

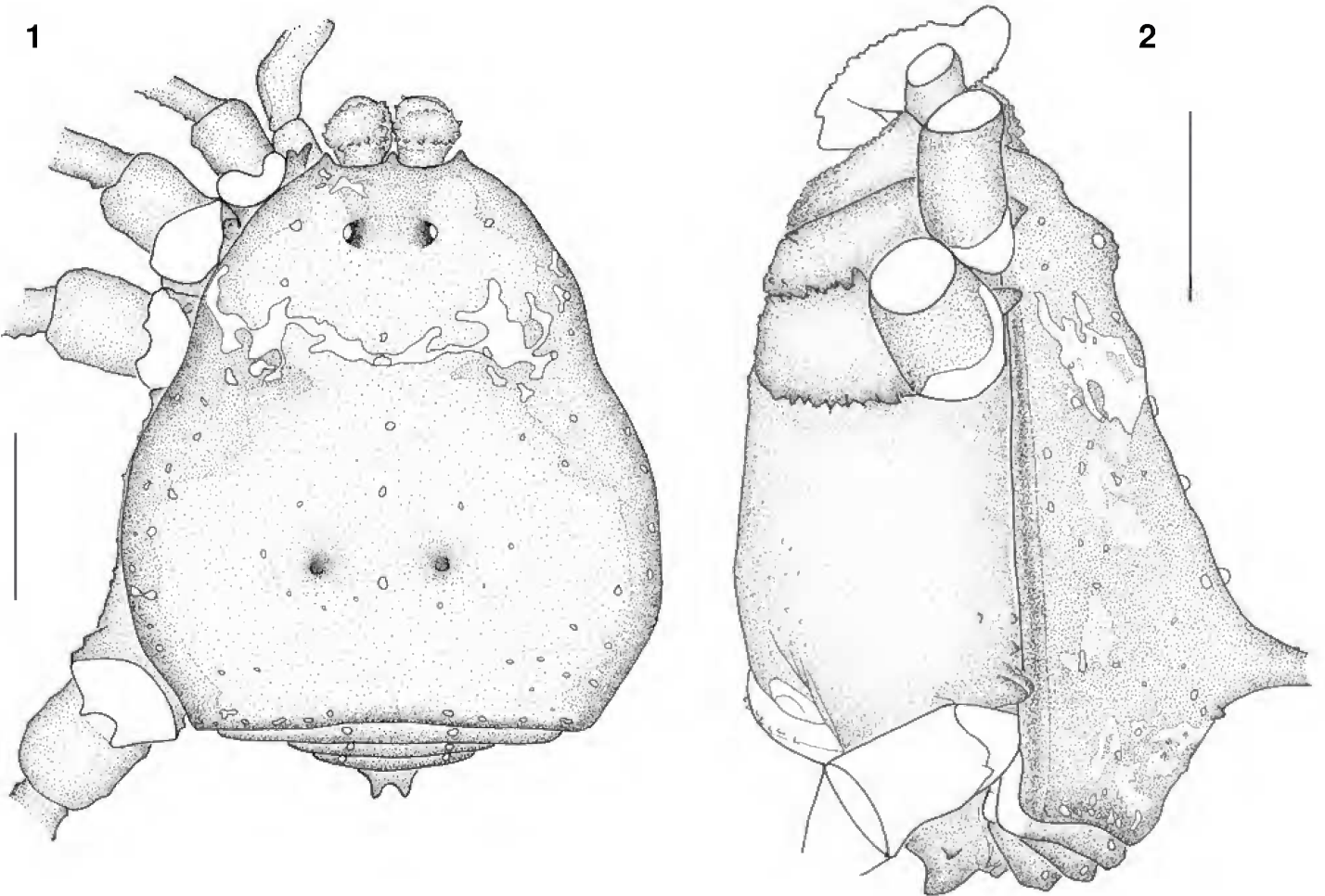
|                       |  |                                       |  |
|-----------------------|--|---------------------------------------|--|
| TOTAL LENGTH: 3.41    |  | TOTAL WIDTH: 3.36                     |  |
| Carapace length: 1.23 |  | Carapace width: 2.23                  |  |
| Pedipalpus            |  | 4.16 (0.68/1.26/0.47/1.05/0.44/0.26)  |  |
| Leg I                 |  | 13.19 (0.41/3.80/0.72/2.18/3.90/2.18) |  |
| Leg II                |  | 31.01 (0.56/8.37/1.12/6.75/9.44/4.77) |  |
| Leg III               |  | 17.71 (0.66/5.66/0.93/2.93/5.33/2.20) |  |
| Leg IV                |  | 26.77 (0.56/8.43/1.12/4.43/9.18/3.05) |  |

Color in alcohol – Background of dorsal scutum, spiniform apophyses of area III and appendages deep orange (centroid 51), central portion of mesotergum, region around the spines and carapace a little lighter. A yellowish white (centroid 92) irregular stripe runs along scutal groove. All surface of scutum with disperse yellowish white round spots. Central region of scutum with longitudinal row of four yellowish white round spots reaching from area I to IV

passing between spines of area III. Such spots also present laterally to eye mound, forming a circle around the spines of area III and along the posterior border of dorsal scutum.

Variation (females, n =2) – Tarsal formula: 6 (3), 14-15 (3), 8, 9.

Female – Similar to male. Armature of cheliceral bulla much smaller. Anal operculum unarmed. Measurements of body and leg II in table 2.



*Metavononoides renneri* sp.nov. Male holotype (MNRJ 6178) from Bom Jesus do Norte: fig.1- habitus, dorsal view, fig.2- same, lateral view. Scale bars = 1mm.

TABLE 2. Female paratype of *Metavononoides renneri* sp.nov. measurements of body and leg II.

|                       |  |                                       |  |
|-----------------------|--|---------------------------------------|--|
| TOTAL LENGTH: 3.30    |  | TOTAL WIDTH: 3.5                      |  |
| Carapace length: 1.23 |  | Carapace width: 2.34                  |  |
| Leg II                |  | 31.79 (0.56/8.81/1.06/7.37/9.68/4.31) |  |



## DISCUSSION

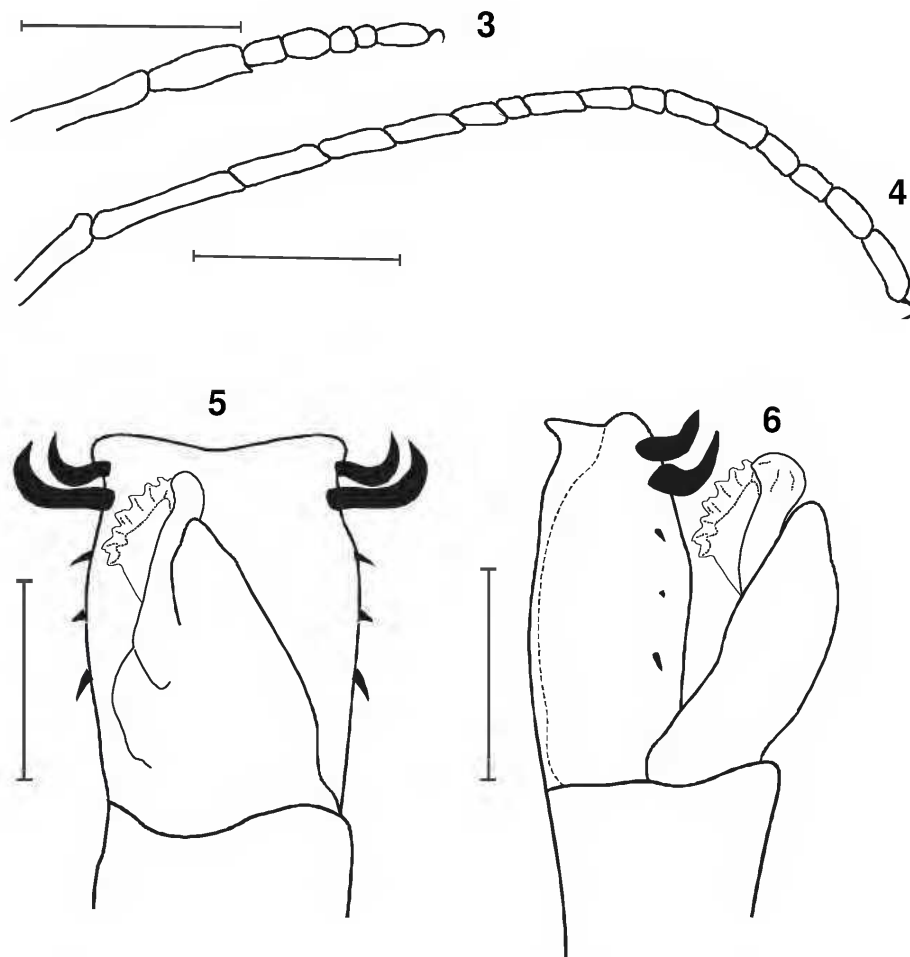
Regarding external morphology, *M. renneri* resembles at closest *Metavononoides preciosus* (Roewer, 1928), also distributed north of Paraíba River, in the Eco-Region NT0104. *Metavononoides preciosus* can be distinguished by the deeper cheliceral socket and presence of a socket in the locking area of leg I, absent in *M. renneri*. Pigmentation of *M. preciosus* consists of two sets of paired white spots, a pair of irregular stripes at anterior margin of carapace, and a pair of stripes close to the carapace. The latter differs from the corresponding stripes of *M. renneri*. The white dots are much scarcer in *M. preciosus* than in *M. renneri*. Coxa IV of *M. renneri* can be seen dorsally all over its length while in *M. preciosus* it is visible only in the apical portion. Dorsal scutum measurements of the male holotype (single specimen available for this study) of *M. preciosus* (SMF) are: total

length 3.12, carapace length 1.08, total width 2.88, carapace width 1.95. Another species geographically close is *M. melanacanthus*, recently described from northern Rio de Janeiro State, south of River Paraíba in the Eco-Region NT0160 (FERREIRA *et al.*, 2005). *Metavononoides renneri* can be distinguished from it by the deeper cheliceral socket; spiniform apophyses of area III concolorous instead of contrasting black, much less evident white drawing of scutum, and smaller tubercles of dorsal anal opercle.

Male genitalia of *M. renneri* are, however, more similar to those of *M. melanacanthus*. Most evident difference being the distal border of ventral plate, which is dorso-ventrally thickened in *M. renneri*. Morphology of male genitalia of *M. preciosus* follows closely that of *M. renneri*, excepted the second basalmost pair of setae of ventral plate which is subequal to the first and third.

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*Metavononoides renneri* sp.nov. Male holotype (MNRJ 6178) from Bom Jesus do Norte: fig.3- tarsi of anterior leg I, fig.4- tarsi of anterior leg II. Scale bars = 1mm; fig.5- distal part of penis, ventral view, fig.6- distal part of penis, lateral view. Scale bars = 0.1mm.